again to the Prah, that only three European soldiers have died, and these have died from heat apoplexy. Two officers have died from malarial fever—Prince Henry of Battenberg and Major Fergusson of the Royal Horse Guards. The deaths of both of these officers have cast a gloom over the expedition; both were highly respected by those who were brought in contact with them; and when Prince Henry's death was telegraphed to us on our first march out from Kumassi everyone of the force, from the Colonel commanding to the youngest private soldier, shared in the grief of the English Princess now left a widow, and many a prayer was uttered that our Gracious Queen would be given strength to bear her great sorrow.

The Type of Fever and its Treatment.

Not a case of dysentery has occurred amongst the troops taking part in the expedition. The fever as I have seen it amongst Europeans varies very much in degree. Sudden in its onset, presenting the usual symptoms of all fevers as regards pain and aches, distaste for food, etc., the temperature very soon reaches 104° or 105°. It has been mentioned to me by most of the officers who have had the treatment of the patients that nearly invariably constipation precedes the fever, and most of the cases that I have seen have been preceded by constipation. On the march this is very often unpreventable owing to irregularity of meals, and in this country particularly, where there is such excessive action of the skin.

The broad principles of the treatment generally adopted were first to act on the liver and bowels by calomel and a saline, then on the skin by phenacetin, and when these organs were working properly full doses of quinine, 15 gr. to 20 gr., were given every four or six hours. Under this treatment the fever, unless it was a very severe case, usually yielded in three to five days. The patient is usually left very much debilitated and anæmic after an attack.

Operative Surgery in Kumassi.

Before concluding there is one point that I cannot refrain from alluding to. On the afternoon of the day that King Prempeh was taken prisoner in his own capital, Surgeon-Lieutenant Spencer, A.M.S., performed an operation on a cousin of the king's at the field hospital overlooking the palaver square. This was the removal of a large fibro-cystic bronchocele, about the size of an ostrich's egg, from the front of the trachea. This tumour had been growing for seventeen years, and involved a large part of the thyroid gland. It extended from near the point of the chin down behind the upper end of the sternum. It was firmly adherent to the trachea, and that organ was flattened out like a riband. This caused a good deal of dyspnœa, and there was a little difficulty at first in the administration of the chloroform. The operation, which lasted nearly two hours, was a distinct success, and when I saw the patient the following afternoon he was sitting up eating rice and milk. If the British occupation of Kumassi was distasteful to the royal family of Ashanti, there is one of them at least who ought, and I am sure will, bear a kindly feeling towards Englishmen, Quassie Appon, who was rescued by a young medical officer from a living death.

The Homeward Voyage of the "Coromandel."

Our correspondent on the hospital ship writes: The return voyage of the hospital ship *Coromandel* from Cape Coast Castle was fortunately completed without encountering any bad weather, and although she started with about 120 sick on board, there were only 3 deaths during the voyage, 1 from malarial fever complicated by albuminuria, and 2 from dysentery, which latter disease has proved most inveterate and fatal, though fortunately rare, during the expedition. The experience of the medical officers of the *Coromandel* was that the disease was almost invariably traceable to a chill, that ipecacuanha had very little effect upon it compared to what it has on the Indian variety of the complaint, and that iron and quinine (the former in large doses frequently repeated) gave the best results. Almost all the other cases on board were either remittent fever or ague, the former while we remained in a hot climate, and the latter when we began to meet with cold weather, an attack being almost invariably brought on by wearing insufficient clothing, taking a cold bath, or otherwise neglecting obvious precautions. The treatment adopted in these malarial cases was (until sweating could be induced) diaphoretics, sponging, phenacetin, and Warburg's tincture, followed by full doses of quinine on remission or intermission becoming established. In some of the earlier cases, while still in a hot climate of the West Coast of Africa, the commencement of remittent fever was extremely like heat apoplexy, the temperature going up to over 106° F, and being attended with delirium and a tendency to coma. These cases were treated with cold sponging, iced enemata, and wet sheet packing, and in one or two the effect of Warburg's tincture in causing perspiration to break out was very marked and rapid, apparently like the effect of hot curry or red pepper, the men all complaining that it burned their throats, though all agreed as to its efficacy. Before we reached Las Palmas the number of cases of sickness had so much diminished that we were able to evacuate the troop deck, which had been fitted up as a ward, the men discharged from hospital being kept under observation, and allowed stout, quinine, etc., as considered necessary; the marked debility and anæmia which followed the malarial fever were greatly benefited by liberal diet, and there was no stinting. Two sick officers were landed at Las Palmas, being so much reduced by prolonged fever as to be unable to bear a colder climate, and the ship was ordered by telegram to proceed to Gibraltar, where about 25 men and two officers were landed for treatment in the station hospital there, till the English spring is more advanced. The ventilation of the wards was most satisfactory throughout. Luckily, at first we had a head wind, which caused the wind sails to act most splendidly, and after they were no longer required the numerous openings at the top answered every purpose. We encountered a slight gale off Finisterre, but no harm was done to ship or sick. The ship called at Plymouth on the morning of February 25th, where the cold was felt very much by all on board, and where, on account of some doubt as to the nature of the fever on board, we were put in quarantine; however, we left after a stay of two hours or so, and arrived in the Thames next morning.

THE ROYAL COMMISSION ON TUBERCULOSIS:

The Need for Immediate Action on its Findings.

THE most superficial examination of the bulky volume containing the report of the Royal Commission on Tuberculosis and of the special experimental inquiries made for it will be sufficient to convince anyone that the work of the Commission was carried out in no half-hearted or perfunctory manner. There were called as witnesses those who, by their previous experience of tuberculosis in its various manifestations, were qualified to express an opinion on one or more of the questions raised. The result is that the evidence collected will serve as a basis on which future legislation may with safety be founded.

The Experimental Inquiries.

The reports submitted by the Assistant-Commissioners contain, as we have already shown, an enormous amount of information regarding the experimental work which was carried out in order that official confirmation or denial might be given to many of those points on which an authoritative opinion had not as yet—in this country at least—been submitted. As much of the evidence offered to the Commission was based on tradition and hearsay rather than on actual experimental work, it is natural that there should be many contradictory and conflicting opinions expressed; but, as regards the experimental work, there seems to be a consensus of opinion amongst those who were entrusted with the investigations on all those points on which the investigations in any way overlapped. A careful study of these investigations must lead to the conclusion that even where there is no overlapping the various facts observed and recorded so far confirm and corroborate one another that the Commissioners were amply justified in making the recommendations contained in their report, and that they might, without straining facts in the slightest degree, have prepared a report even more drastic than that submitted.

Tuberculosis and Milk.

Taking the questions in the natural order in which they arise, Dr. Martin shows, in a most convincing series of experiments, that the danger of using milk from tuberculous udders is undoubtedly quite as serious as even the most pessimistic had imagined. The injection and feeding experiments carried out to determine this question are so numerous and so convincing that little doubt can be left on this point. Taken in conjunction with the experiments carried on by Dr. Woodhead they constitute an overwhelming mass of evidence.

Butter and other Milk Products.

As regards the products of milk, such as butter, Dr. Martin agrees most thoroughly with all previous observers that the infective bacilli originally in the milk may remain in its products—for example, butter—and give rise to tuberculosis in those who partake of them. This fact, though not new, is brought home to us so forcibly, that had the Commission brought out no more than this single fact, its deliberations would not have been in vain.

Tuberculosis and Meat.

When Dr. Martin comes to deal with the question of infection through the consumption of meat from tuberculous animals the evidence—though not so far-reaching and decisive in character—is still extremely important, for he finds that, although tuberculous lesions are not very frequently met with in the delicate intermuscular connective tissue, tubercles do undoubtedly, though rarely, occur in this position; whilst the presence of tuberculous glands in the substance of certain "joints," and tuberculous infective material derived from caseous tuberculous masses, and carried to the surface of "joints" by the knives and hands of the person dressing the carcass, is put beyond question. These results are fully borne out by the experiments carried on by Dr. Woodhead, who arrives substantially at the same conclusions.

The Sterilisation of Tuberculous Foods.

In the part of the report dealing with the sterilisation of tuberculous infective material, whether in meat or in milk, Dr. Woodhead deals with the question from the point of view of the consumer. He indicates that although the tubercle bacillus may be comparatively easily destroyed by subjecting it to a temperature even below that of boiling point, there is under certain conditions grave danger that even in the process of cooking—especially in the case of meat—bacilli if present may readily escape being subjected to the comparatively low temperature necessary, especially if the glands be embedded in a joint, or when meat which has been contaminated by the hands or knives of the butcher is made up into "rolls." The experiments bearing on this point are numerous and most convincing. The treatment of tuberculous milk is a somewhat easier matter, as already pointed out in the pages of the British Medical Journal. The indications for sterilising are fairly definite, and were it not that under certain conditions and at certain points the human organism, like that of pigs, appears to be specially susceptible to infection by even partially devitalised tubercle bacilli, the question would be comparatively a simple one. It is, evident, however, from the experiments carried on with tuberculous milk, especially those in which pigs were fed and guinea-pigs injected, that tubercle bacilli, even when exposed to comparatively high temperatures and for comparatively long periods, are capable of setting up tuberculosis (*a*) especially through the tonsillar and pharyngeal tissue in the case of the pig, and at the site of inoculation in the case of the guinea-pig. The tonsillar tuberculosis so frequently produced in the pig is of special interest when considered in connection with the tuberculous glands met with in the neck in scrofulous children.

The Precautions Indicated.

It is evident that the facts gathered should have considerable weight in determining what precautionary measures should be taken to safeguard the public against the passage of tuberculous material from the dairy and from the slaughterhouses into our food supply. The precautionary measures of boiling milk and special heating or thorough cooking of meat should be at most temporary expedients, and should not be allowed to continue under any rational conditions of food supply. It should be the object of health authorities to attack the evil at its root and to eliminate, if possible, all tuberculous animals from our stock, dairies, and markets, by gradually weeding out tuberculous stock, and by careful and judicious confiscation of tuberculous carcasses.

Tuberculin as a Diagnostic Agent.

The first step towards doing this is necessarily an improved method of diagnosis, and Professor McFadyean's investigations into the diagnostic value of tuberculin are valuable as indicating the possibility of early diagnosis of tuberculous lesions in cattle. Since these investigations were carried out the evidence in favour of tuberculin as a diagnostic agent has become more and more decisive. Bang in Copenhagen, Nocard in Paris, and other well-known authorities have come to the conclusion that in a very large percentage of cases diagnosis by tuberculin may now be made with comparative certainty; in fact so certain is the method looked upon by some stockbreeders that only a short time ago Sir Thomas Carmichael—Mr. Gladstone's successor to the Midlothian seat in the House of Commons, and a breeder of pedigree cattle—announced that he was now prepared to give a guarantee or warrant with most of the cattle brought from his farms. This is certainly a very great advance, and there can be little doubt that the example will shortly be followed by other breeders. The value of the safeguard to the buyer is so great that he should certainly be willing to pay for such a guarantee.

The Detection of Tuberculosis in Slaughterhouses and Dairies.

Until tuberculous cattle are got rid of, however, it is evident that tuberculous material, whether in meat or milk, must be detected or eliminated at the very source of origin, and this can only be done by some such means as the following: Registration of all slaughterhouses, cattle sheds, and dairies should be enforced. Every such establishment should be subject to the most rigorous inspection, not only by medical, but by veterinary, inspectors, both specially trained for the work. In most Continental towns all the slaughterhouses are directly under municipal control, and are provided with excellent staffs of inspectors, without whose permission and stamp no part of a carcass is allowed to be exhibited for sale. Periodical visitation and examination of the cattle in all dairies, at frequent intervals, by skilled veterinary inspectors, is inevitable, since the evidence in this report makes it evident that by no other means can tuberculosis be detected, even when present in advanced degree in milk-giving cattle. In this matter it would be advisable to join forces with the veterinary profession, and, by a combined statement and appeal, draw public attention to the need that exists for most thorough inspection of dairy cattle. How important this point is considered may be gathered from the recommendation given by Dr. Woodhead, that the following should be laid down as definite instructions to inspectors:

(*a*) That all tuberculous animals, whether affected with udder disease or not, should be eliminated from a dairy supply, removed from the farm, and slaughtered at as early a date as possible, it being pointed out to the farmer that every day that the animal lives diminishes the value of the carcass, the milk being no longer of the slightest value.

(*b*) That every animal suffering from any disease of the udder should be carefully isolated and milked after all the other cows have been milked, or by a separate milker; this milk should from time to time be carefully examined, both chemically and microscopically. If used at all it should be carefully boiled, and only after such treatment should it be given to pigs and other animals, though the risk of this should be carefully pointed out to the farmer. Only after a certificate has been given by the veterinary surgeon, in consultation with the medical officer of health, should the milk from any cow suspected of udder disease be allowed to pass into circulation.

(*c*) The registration of all dairy premises, and of every animal bought for, or sold from, the premises. The register should be carefully made out and kept by the veterinary inspector, and notes on the condition of every suspected animal should be entered up at each visit.

It is obvious that such a sweeping change, especially if associated with voluntary or compulsory notification, would in the first instance involve the cattle breeder and even the dairy farmer in some pecuniary loss, but if some insurance scheme could be devised whereby the burden might be divided, and borne partly by the owner and partly by the State or municipality, it would be received with open arms by sellers and consumers alike. At present enormous sums are paid as compensation for compulsory slaughter of swine affected with swine fever, whilst a disease far more widely

spread, and of infinitely greater importance from every point of view, has up to now been allowed to pass officially unnoticed except in so far as some butcher has now and again been fined for exposing tuberculous meat for sale, and then only because from other conditions it was unfit for human food. It is time that both dealers and customers should be protected, and it is now evident that this can be done only by bringing into operation a well devised and comprehensive scheme.

MEDICAL DEFENCE.

THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL DEFENCE UNION.

SIR,—In the leaderette on Medical Defence in the BRITISH MEDICAL JOURNAL of February 29th it is said that it was apparent at the meeting of the Medical Defence Union, which was held on February 21st, that the members of the Union were "so satisfied with the present management of their affairs and the insurance which is granted by the company against the legal perils and dangers of a general practitioner's life, that they might be indisposed to give up their privileges and rights, even were the British Medical Association to evolve and perfect a scheme of medical defence."

I was so struck with this statement that I turned at once to the report of the meeting, which is published in the same number of the JOURNAL, and I found that no objection whatever was raised at the meeting to the adoption by the Association of the duties of medical defence. On the contrary, the President of the Union, in a powerful and convincing speech, strongly urged the Association to take up these duties on behalf of the medical profession, and in the discussion which followed similar views were expressed by other speakers.

It is not perhaps sufficiently realised that the Medical Defence Union, while defending the interests of its members, is also fighting the battle of the profession, which benefits largely by the work of the Union. Much more could be done if the medical profession would do its own work of medical defence through the Association, instead of leaving it to a comparatively small number of public-spirited men, who have "the right and privilege" of paying for it.

It is not proposed, as is suggested in the leaderette, that the duties of medical defence, should be entrusted to the Council of the Association, a body which is "unacquainted with the details involved," but that they should be carried out by a Medical Defence Board, provided with the services of a paid organising secretary, and working under the control and direction of the Council.

On this Board we may hope to see the present "skilled staff" of the Medical Defence Union, and under this management we need scarcely anticipate that disaster will ensue if the Association develops the work that has been so successfully commenced by the Medical Defence Union.

A sound practical scheme was published in the JOURNAL of February 8th, which, when modified and enlarged, will effect the consolidation of the profession. Under the scheme all members of the Association will obtain the same advantages that the Union offers to its members, while the medical profession as a whole will be placed in a far better position than ever before to fight its own battles. A small addition of 5s. to the annual subscription will afford ample funds for carrying out the work without encroaching upon the amount which is now annually added to the reserve fund of the Association. It is obvious that we must not allow this annual increase of our reserve fund to be stopped, for a poor Association will be of little service, while a rich one has power and carries weight. But at present we save money which under the present memorandum we cannot touch, and, although there are ample funds in hand, all that the Council can do in such cases as those of Dr. Anderson and Dr. Lionel Smith, in which the interests of the profession are involved, is to extend their sympathy and open the JOURNAL for charitable appeals. This is very unsatisfactory, and it rests now with the members to insist upon an alteration of the memorandum which at present makes progress impossible.

It is a striking fact that so far not one valid argument has been advanced against this reform, which, while it will be of the greatest service both to the Association and to the profession, has been shown to be capable of being carried out both inexpensively and easily.—I am, etc.,

Dover, Feb. 29th. ARTHUR WELSFORD.

THE CASE OF MR. R. B. ANDERSON.

AT a meeting of the Council of the Birmingham and Midland Counties Branch of the British Medical Association on February 27th the following resolution was unanimously passed:

That on the grounds set forth in the Interim Reports of the Civil Rights Defence Committee the Council of the Birmingham and Midland Counties Branch of the British Medical Association desires to express its entire concurrence with the Civil Rights Defence Committee in earnestly inviting members of Her Majesty's Government, members of Parliament, public men, and public bodies both medical and lay to co-operate with the Committee in defence of the chartered and statutory rights of medical men and of the ancient rights and liberties of British subjects.

Similar resolutions have been passed by the Bath and Bristol Branch (see p. 624) and the British Guiana Branch (p. 625).

THE ELECTION OF THE DIRECT REPRESENTATIVE FOR IRELAND.

THE polling for the election of the direct representative for Ireland on the General Medical Council began on February 20th, and ended on February 27th. A good deal of interest was manifested in the result. Originally there were five candidates: Mr. Thomson, Dublin; Dr. Jacob, Dublin; Professor Cuming, Belfast; Dr. McDonnell, Dundalk; and Dr. Greene, Ferns. The three last named being provincial candidates, agreed to submit the selection of one to a preliminary vote, and this was carried out by a committee in Cork, with the result that Dr. Cuming came out at the head of the poll. He was accordingly put forward as the candidate whom the provincial practitioners were asked to support, and an active campaign was carried on by the combined forces. The counting of the votes began on February 28th last, and was continued on February 29th, when the following was the result:

Mr. W. Thomson, Dublin	...	866
Professor Cuming, Belfast	...	757
Dr. Jacob, Dublin	... ...	455

We are informed by the Registrar of the Irish Branch Council that the number of voting papers sent out was 2,768. There were 4 spoiled votes, and 4 votes were received too late to be counted. It therefore appears that 682 practitioners on the *Register* resident in Ireland did not vote. It is probable, of course, that many of these were absent from Ireland at the time.

The surprise of the election has been Dr. Jacob's small poll. At a previous contest with the late Dr. Kidd, he received over 600 votes, and it was generally believed that, in view of his services to the Poor-law medical officers, he would improve upon that position.

LITERARY NOTES.

A NEW journal devoted to diseases of children, to be entitled the *Centralblatt für Kinderheilkunde*, is to appear on April 1st. It will be published at Leipzig under the editorship of Dr. Eugen Grätzer, of Sprottau.

In the *Rheinisches Museum für Philologie*, new series, Band 49 and 50, Dr. Robert Fuchs, who is bringing out a new German translation of Hippocrates, has two articles containing a number of unpublished fragments from Hippocrates, Praxagoras, Diocles, Erasistratus, Soranus, and other Greek writers on medical subjects.

The March number of *Science Progress*, which inaugurates the third year of this excellent but somewhat ponderous monthly review of current scientic investigation, will contain a powerful article on "Ludwig and Modern Physiology" by Professor Burdon Sanderson, and an interesting paper on "Recent Advances in Vegetable Cytology," by J. Bretland Farmer, M.A., Professor of Botany in the Royal College of Sciences.

In the new *Dictionary of the Bible* which Messrs. T. and J. Clark, of Edinburgh, have in preparation under the editorship of the Rev. James Hastings, the articles "Diseases,"